

Ren, Baolue  
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### Remarks

#### Summary of Rejections

In ¶1 of the Office action, the examiner attempts to treat the provisional election of species made by Applicant as a rejection without traverse. However, the record is clear that Applicant pointed out the examiner's error in interpretation of 37 CFR 1.83, and requested the examiner reconsider this course of action, in full compliance with 37 CFR 1.143. Regardless, in order to expedite prosecution, Applicants herein withdraw the non-elected claims.

In ¶3 of the Office action, the examiner again re-iterates a strained interpretation of 37 CFR 1.83. No requirement is contained therein for each drawing to show each feature of every claim, as purported by the examiner. Such a requirement would be impossible to meet for all but simple inventions, and Applicants herein note that the application clearly meets the written description requirements of 35 USC 112 for all claimed species. Regardless, in order to expedite prosecution, Applicants herein has withdrawn claims that contain elements found objectionable by the Examiner. As the remaining claims are broader in this respect, this is not a narrowing of the claims.

In ¶5 of the Office action, claims 1, 2, 4, 8, 9, 11, and 19 have been rejected under 35 USC §102(b) as being anticipated by Lyon, (US Patent 3,012,758).

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In ¶6 of the Office action, claims 1, 3, 4, 8, 9, 11, and 19 have been rejected under 35 USC§102(b) as being anticipated by Sasaki, et al. (US Patent 5,513,432).

Applicant respectfully traverses these rejections.

**Legal Precedent Regarding Sections 102 and 103**

It is axiomatic that anticipation under §102 requires the prior art reference to disclose each and every element of the claim to which it is applied. *In re King*, 801 F.2d 1324, 1326, 231 USPQ 36, 138 (Fed. Cir. 1986). Thus, there must be no differences between the subject matter of the claim and disclosure for the prior art reference. Stated another way, the reference must contain within its four corners adequate direction to practice the invention as claimed. The corollary of the rule is equally applicable: absence from the applied reference of any claimed element negates anticipation. *Kloster Speedsteel AB v. Crucible Inc.*, 793 F.2d 1565, 1571, 230 USPQ 81, 84 (Fed. Cir. 1986).

**Argument**

1. Applicants' respectfully submit that the amendments to the claims, particularly their selective withdrawal of non-elected claims, renders the rejection of ¶1 moot. It is respectfully requested that this rejection be withdrawn. No abandonment of any subject matter is intended by this amendment, and Applicants expressly reserve the right to claim this non-elected subject matter in later filed daughter applications.

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2. In addition, Applicants' respectfully submit that this amendment also renders the rejection of ¶3 moot. It is respectfully requested that this rejection be withdrawn. As above, no abandonment of any subject matter is intended by this amendment, and Applicants expressly reserve the right to claim this non-elected subject matter in later filed daughter applications.

3. Applicants address the remaining rejections as follows.

**A. The Heat Exchanger Configuration Disclosed in Lyon Does Not Teach Each and Every element of the present invention.**

4. Applicants respectfully traverse the rejection of ¶ 5 of the pending office action. The invention as claimed is not anticipated by Lyons as asserted in ¶5 of the office action: each and every element of the invention as claimed is not found in Lyons.

5. The inventive configuration provides significant and valuable level heat exchanger efficiency. One of the ways that the invention accomplishes this objective is by placing fins and openings in the tubing configuration such that the airflow directed at the heat exchanger flows through the openings and over the fins.

6. Here, the instant rejection is based on art where the fins and openings are configured such that air traveling in the anticipated direction of the airflow would not flow through the openings and over the fins. At most, only turbulent airflow, that may or may not exist in the Lyons art, may or may not direct

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air through the openings and over the fins. In fact, the configuration disclosed in Lyons is such that air flows essentially parallel and in the plane of the plate-tubing.

7. This is made especially clear in Fig. 5 of Lyon. The arrows indicating the direction of the air flow pass between the individual plates. However, the configuration is such that the air flows past the openings, as opposed to through the openings.

8. This is particularly important given the differences in the orientation the inventive configuration and the Lyon's configurations. With the inventive configuration, air pressure that would otherwise be exerted on the tubing plates is directed through the openings in the connecting members and across the fins. Without this orientation, a pressure differential would be created between the front portion of the heat exchanger and the back/downstream portion. In simple terms, air would not flow freely through the exchanger. In contrast, Lyon does not disclose the proper orientation, nor does it appear one would be able to use the Lyon heat exchanger if oriented along the lines of the present invention, as airflow would then be restricted. In short, even with openings and fins oriented to face the direction of the airflow, the plate configuration disclosed in the Lyon patent would substantially impede the airflow and heat exchanger efficiency would be reduced. Lyon's configuration does not and cannot direct the anticipated direction of the airflow through the openings or over the fins.

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9. As claimed in the pending claims, the present inventive configuration and tubing instead orients/positions the openings and fins such that the air flowing from the front of the heat exchanger flows through the openings and over the fins, thus providing the unexpected increase in heat exchanger efficiency. Accordingly, Lyon's disclosure of a heat exchanger configuration would not teach each and every element as presently claimed..

10. Applicants therefore request withdrawal of this rejection and allowance of the claims.

**B. Sasaki's heat exchanger configuration is Similarly Deficient as it Directs Airflow Away from, Instead of Through the Openings.**

11. Applicants respectfully traverse the rejection of ¶ 6 of the pending office action. Similar to the Lyon patent's disclosure above, the Sasaki heat exchanger configuration directs the anticipated airflow across the openings and fins, as opposed to through the openings and over the fins. As with Lyons, only turbulent airflow, which likely exists at best in at a *de minimus* level, if that, would pass through the openings and over the fins. As with Lyons, the configuration disclosed in Sasaki is such that air flows essentially parallel and in the plane of the plate-tubing, and thus across the opening rather than through the opening. This is especially apparent from Fig. 1 and Fig. 2 of Sasaki. As disclosed therein, panel units are disposed to create air flow between the plates, as opposed to through the openings in the plates as in the present invention. See Sasaki, col. 3, ll. 45-51. Thus the Sasaki

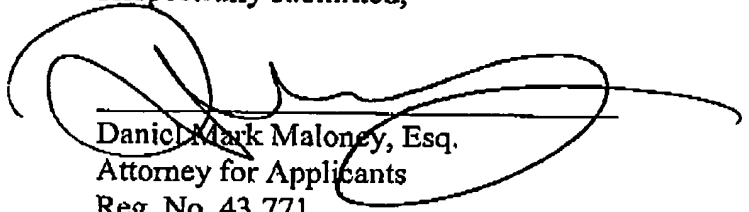
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configuration does not and cannot direct the anticipated direction of the airflow through the openings or over the fins.

12. As the present inventive configuration as claimed orients and positions the openings and fins such that the air flowing from the front of the heat exchanger flows through the openings and over the fins, thus providing the unexpected increase in heat exchanger efficiency, applicants respectfully request the withdrawal of this rejection.

It is respectfully submitted that the present application is in condition for allowance. If the Examiner would like to suggest changes of a formal nature to place this application in better condition for allowance, a telephone call to Applicants' undersigned attorney would be appreciated.

Respectfully submitted,



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